CLAIMS

What is claimed is:

1. A peptide analogue derived from residues 87-99 of human myelin basic protein, wherein at least the lysine residue at position 91 is altered to another amino acid; and wherein the peptide analogue is not in the form of a noncovalent complex with a Major Histocompatibility (MHC) component.

2. The peptide analogue of claim 1 wherein the amino acid at position 91 is altered to a non-conservative amino acid.

3. The peptide analogue of claim 1 wherein the amino acid at position 91 is altered with an amino acid selected from the group consisting of D-lysine, alanine, glycine, glutamic acid, phenylalanine, arginine, asparagine, histidine, leucine and serine.

4. The peptide analogue of claim 1 wherein the amino acid at position 91 is altered to alanine.

5. The peptide analogue of claim 1 wherein the analogue causes reduced expression of TNF-α from MBP-reactive T cells relative to the native sequence.

6. A pharmaceutical composition comprising a peptide analogue according to claim 1 in combination with a physiologically acceptable carrier or diluent.

7. A method of treating multiple sclerosis, comprising administering to a patient a therapeutically effective amount of a pharmaceutical composition comprising the peptide analogue of claim 1, in combination with a physiologically acceptable carrier or diluent.

8. The method of claim 7 wherein the amino acid at position 91 is altered with an amino acid selected from the group consisting of D-lysine, alanine, glycine, glutamic acid, phenylalanine, arginine, asparagine, histidine, leucine and serine.

9. The method of claim 7 wherein the amino acid at position 91 is altered to a non-conservative amino acid.

10. The method of claim 7 wherein the amino acid at position 91 is altered to alanine.

11. The method of claim 7 wherein the analogue causes reduced expression of TNF-α from MBP-reactive T cells relative to the native sequence.